

Audio-visual, touch screen, computer assisted self-interview (AVT-CASI): first year results

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Support: National Heart, Lung & Blood Institute (HL61111)

Why do we continue to interview donors with current lab tests?

- Windows (**rare**)
- False negative test error (**even rarer**)
- “Other” bugs
- Minimize input burden in lab system
- Prevent staff exposure before testing
- Donor safety

Does donor qualification work?

	US rate*	ARC FTD rate*	Rate ratio	Percent
HBV	444.8	75.6	5.9	17%
HCV	1387.9	299.1	4.6	22%
HIV	47.2	9.7	4.9	21%

*Prevalence/100,000 population

Sources: WWW.CDC.GOV. US Census Statistical Abstract 2001, US Population 2000.

Dodd RY et al. Transfusion. 42:975-79. 2002

Why do we get false negative histories from donors?

- Inquiries seen to be politically motivated or discriminatory are not taken literally
- Peer and workplace expectations
- Incentives
- Test-seeking behavior
- Inadequate privacy
- Memory (post-donation information)
- Incomplete understanding esp. illiteracy
- “It’s not about me.”

Some issues in donor interviewing

- 21-23% US adults in literacy strata that would make understanding of prescription directions problematic. **1992 National Adult Literacy Survey.**
- >30,000,000 US residents are foreign born; 21,000,000 speak English less than "very well." **Census 2000**
- 18% of Baltimore adults with some college or 2 year degree with <8th grade literacy. **Al-Tayyib. AJPH. 2002. 92:1478**
- Multimedia improves comprehension of HIV risk among blood donors. **Mayo et al. Transfusion. 1991. 31:446.**
- Improved reporting of HIV risk/symptoms with keyboard interview. **Locke et.al. JAMA. 1992. 268:1301**

Impact of computer interviewing on provision of sensitive information

	Paper SAQ (%)	Audio-CASI (%)	Crude OR	Adjusted OR
Any MSM	1.8	5.3	3.03	3.03
IDU ever	0.3	4.5	14.11	16.67
Marijuana daily during last year	1.9	5.1	2.78	3.51
Used crack or cocaine past year	0.9	5.7	6.67	7.15

Advantages of AVT-CASI

- Useable by any respondent who can hear
- Programmable in any spoken language
- Provides text, aural and visual cues for the same question so no requirement for literacy
- Standardizes presentation and pace; every respondent hears the same thing
- Provides automated skip and branch patterns to guide respondents through complex interviews
- There is a strong perception of privacy
- Clean data files

Mississippi Valley Regional Blood Center Quality Donor System TM (QDS)

- Headphone audio
- Touch screens – no training required
- Color pictures to highlight questions
- On-screen text
- AABB UDHQ questions
- Staff review mode with flags
- Electronic databases

Mississippi Valley Regional Blood Center Quality Donor System™ (QDS)

- Implemented for over a year at MVRBC (CBE-30)
- Deployed sequentially in 9 MVRBC fixed locations
- Utilized in over 30,000 donor interviews
- Donor & staff modules, 60 multimedia donor screens and two machine readable databases



Medical History

Question 24



Laurie Rogenski, RN

Male donors: Have you had sex with another male, even once, since 1977?



Male-Male Sex?

Back

Yes

???

No

Next

Medical History

Question 23A



Laurie Rogenski, RN

Have you ever used a needle, even once, to take drugs that were not prescribed by a doctor?



Self-injected Drugs?
Used a Needle?

Back

Yes

???

No

Next

Medical History

Question 14B1



Laurie Rogenski, RN

From 1980 through 1996, did you spend time that adds up to 3 months or more in the United Kingdom (England, Northern Ireland, Scotland, Wales, the Isle of Man, the Channel Islands, Gibraltar, or the Falkland Islands)?



United Kingdom Stay?

Back

Yes

???

No

Next

Staff Review

Click on question to review.

- ▼ -Needs Review
- ▼ -Acceptable After Review by Staff
- ⚠ -Aberrant After Staff Review
- ✓ -Answer Acceptable
- ✗ -Donor Deferred Black-N/A

Donor: 233
Gender: Male

Reviewer Login: admin

- | | | | |
|------------------------------|---------------------------------|--------------------------------|--------------------------------|
| ✓ Question 1 | ✓ Question 10D | ✓ Question 18 | ✓ Question 26B |
| ✓ Question 2 | ✓ Question 10E | ✓ Question 19 | ▼ Question 27A |
| ✓ Question 3 | ✓ Question 10E1 | ⚠ Question 20A | ✓ Question 27B |
| ▼ Question 4 | ✓ Question 11 | ✓ Question 20B | ✓ Question 28 |

		<input type="checkbox"/>	brain covering) graft?
Y	15C	<input checked="" type="checkbox"/>	Have you or any of your blood relatives ever had Creutzfeldt-Jakob disease or have you ever been told that your family is at an increased risk for Creutzfeldt-Jakob disease?
Y	16	<input checked="" type="checkbox"/>	In the past 12 months, have you had close contact with a person with yellow jaundice or viral hepatitis, or have you been given Hepatitis B Immune Globulin (HBIG)?
Y	18	<input checked="" type="checkbox"/>	In the past 12 months, have you received blood or had an organ or tissue transplant or graft?

			anyone who was born in or lived in any African country since 1977?
Y	31	<input checked="" type="checkbox"/>	In the past 12 months, have you been in jail or prison?
<input checked="" type="checkbox"/>	32	N	Have you read and understood all the donor information presented to you, and have all your questions been answered?

Accepted Deferred

Signed

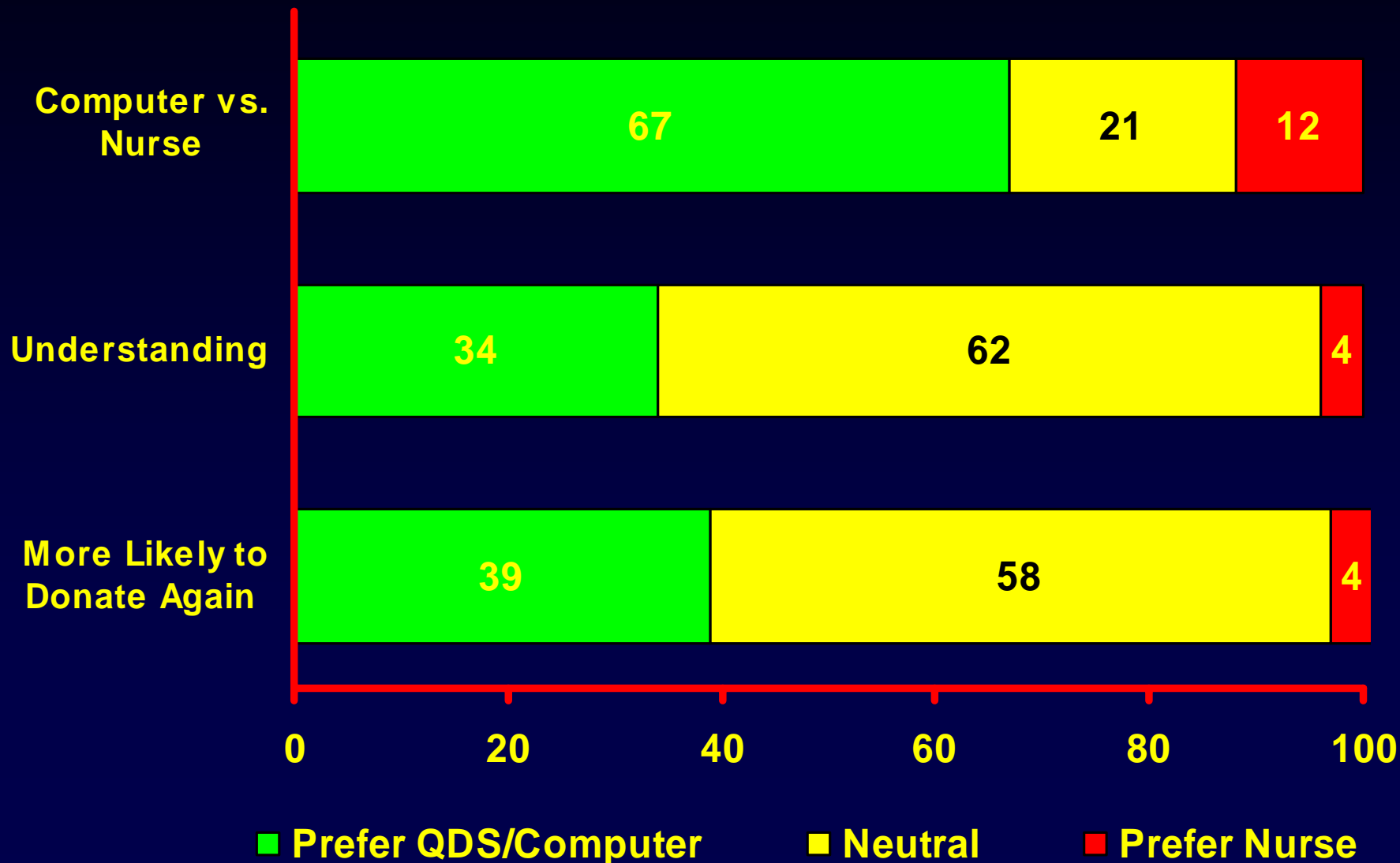
Comments: Q4. Not feeling well, may be low BP

Privacy Comments: Donor now understands

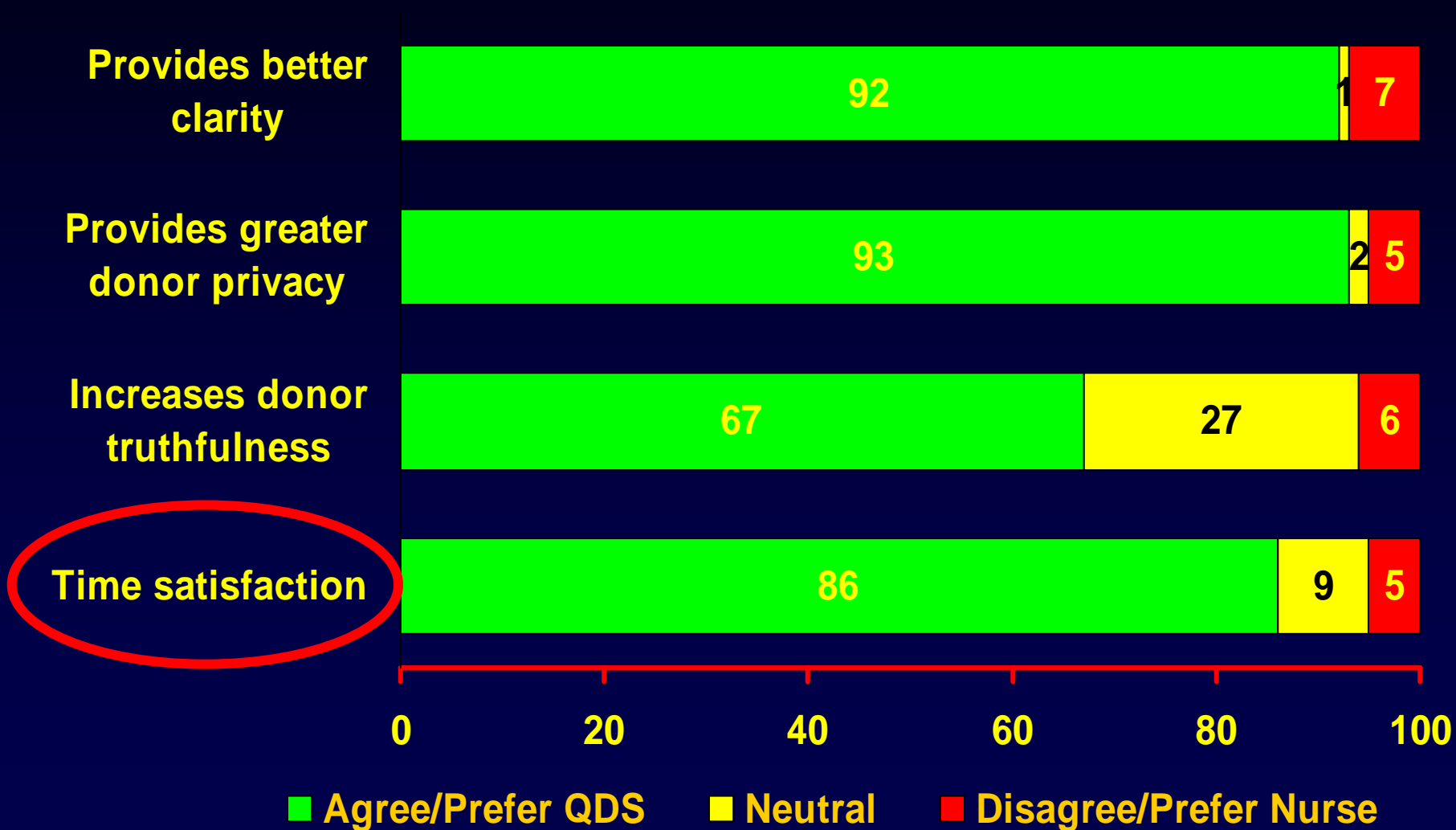
Overall

Donation Comments: Accepted for the donation

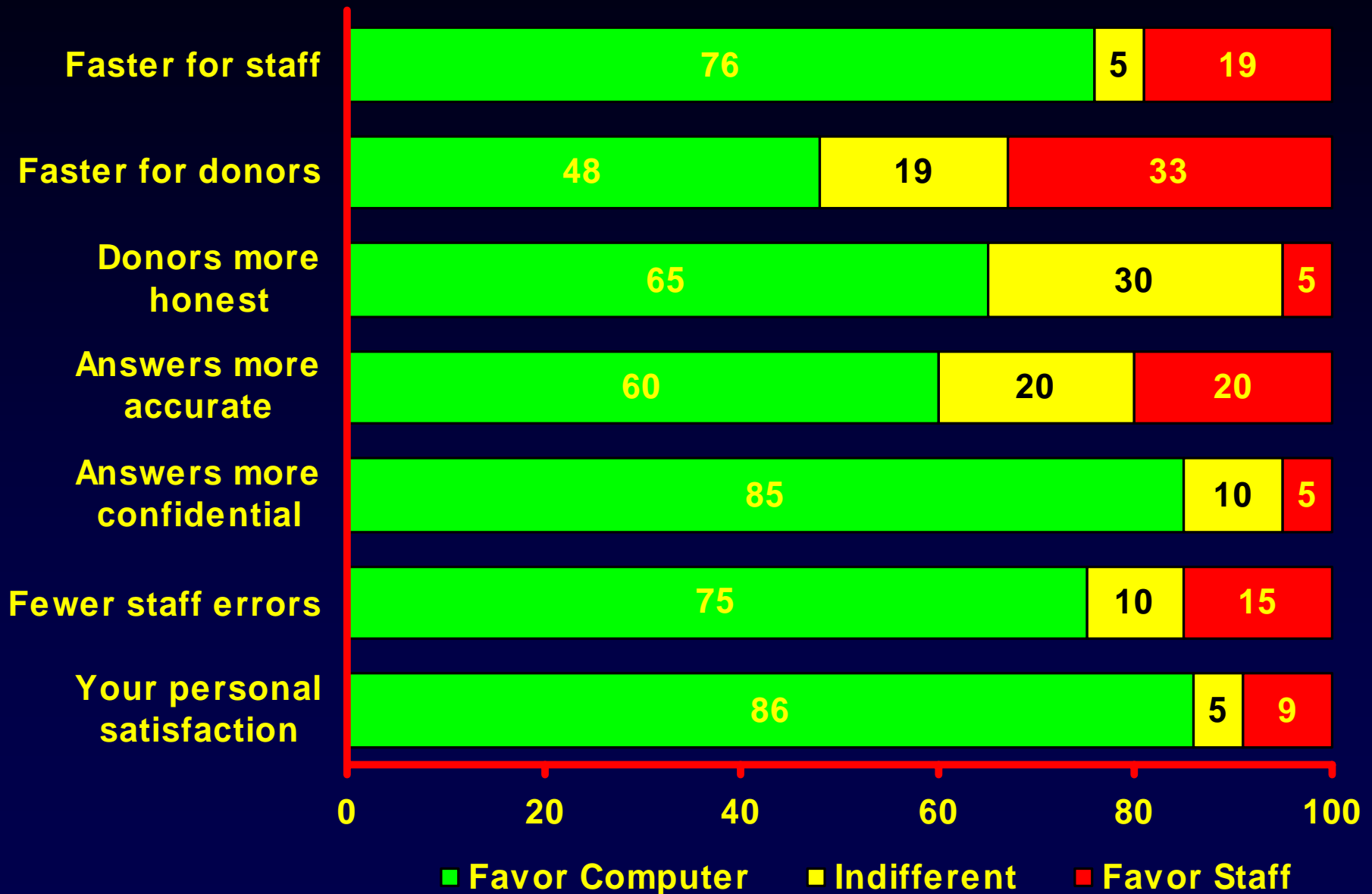
Post-Donation Survey of Donor Reactions to Quality Donor System™ Interview (Davenport Center Summer 2001 (N =532))



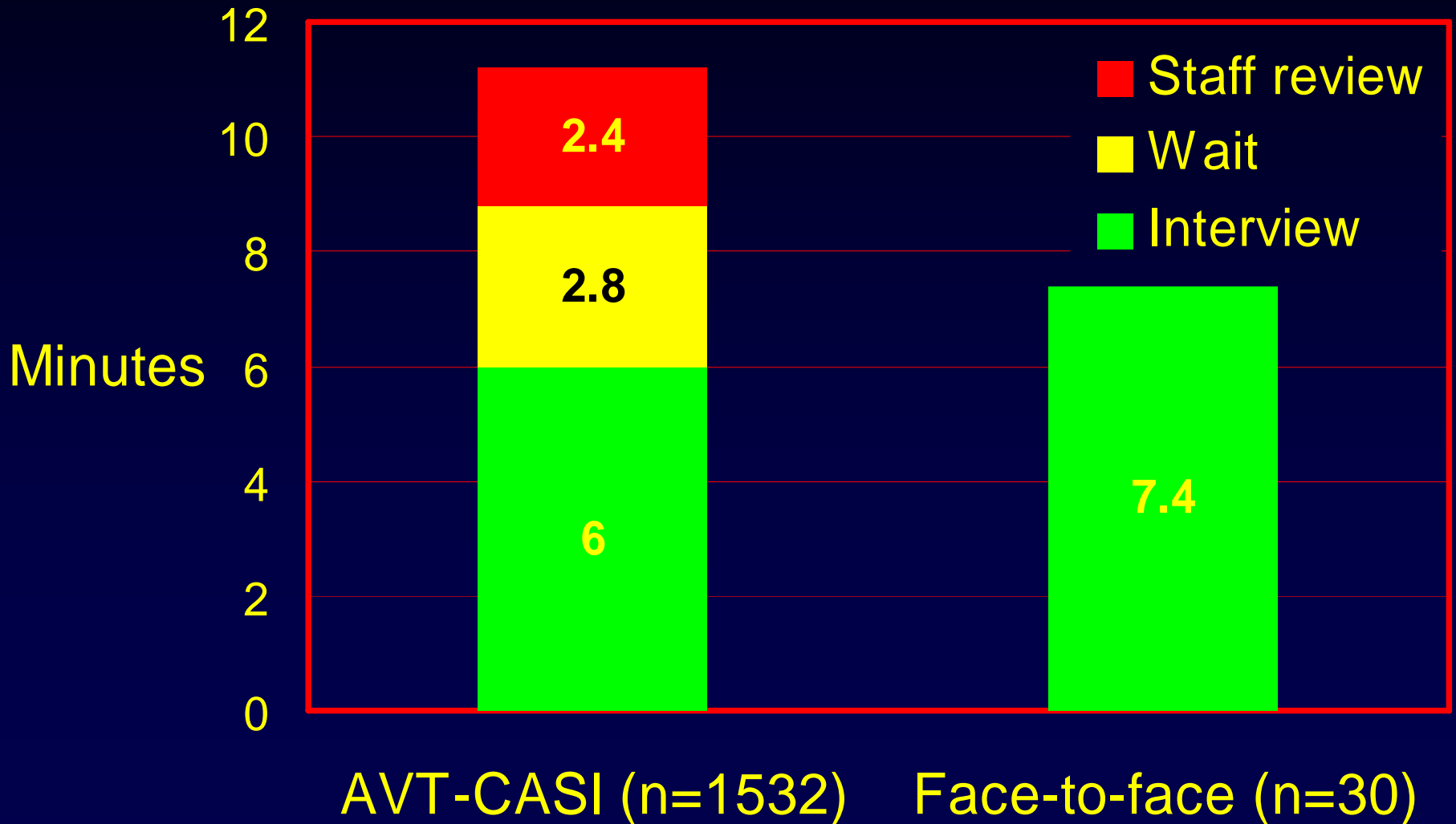
Post-Donation Survey of Donor Reactions to Quality Donor System™ Interview (Davenport Center Summer 2001 (N =532))



MVRBC Staff Survey (N=21)



Time studies AVT-CASI v. face-to-face



QDS reduces errors and omissions by >60% compared to verbal screening

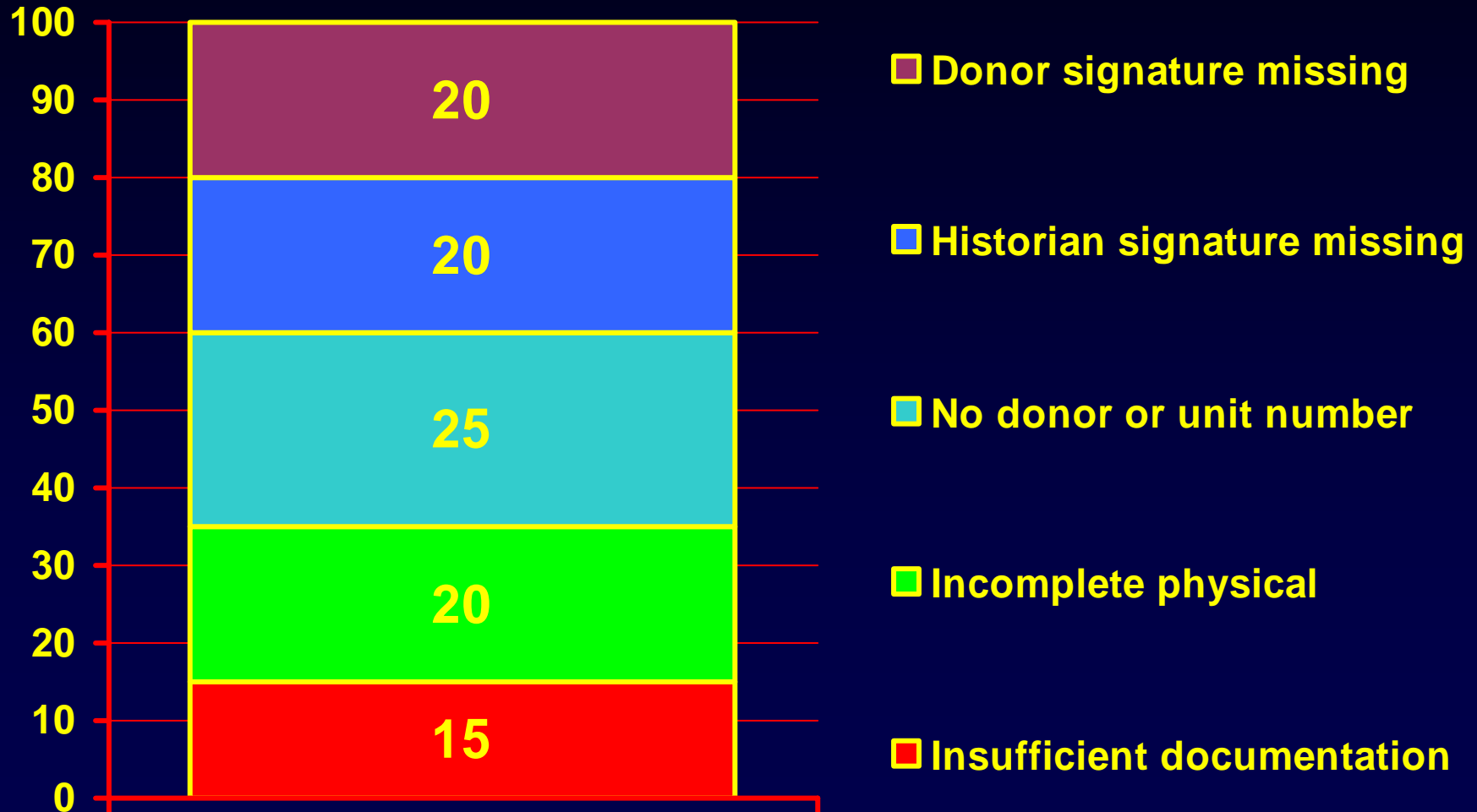
	AV-CASI	Verbal	Total
Error or omission	20	250	270
No error or omission	13542	65934	79476
Total	13562	66184	79746

Two-sided $p = 0.00004$ (Chi square). OR = 0.39, 95% CI: 0.24-0.63

* Errors/omissions include missed signatures, questions, vital signs, or documentation of responses or deferral codes.

Source: CBER/NIH Best Practices Presentation 2002

85% of residual errors & omissions should be eliminated by planned upgrades



Impact of AVT-CASI on HIV and STD deferrals of FTD: single fixed site

Face-to-face
05/00-04/01
n=13469

AVT-CASI
05/01-04/02
n=14804

High-risk deferrals among FTD	1	9
Accepted FTD	527	927

Fisher exact $p=0.11$. OR=5.1 (0.7-108.1).

Collaborators

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